

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listing of claims in the application.

Listing of the Claims

Claims 1 and 2 (Canceled).

3. (Currently Amended): A method of driving a matrix type liquid crystal panel provided with a plurality of thin film transistors coupled to scanning wires and signal wires, and a plurality of liquid crystal cells, at intersecting points of the scanning wires and the signal wires, the method comprising steps of:

applying a scanning signal to the scanning wire; and

supplying data signals having a width enlarged in accordance with an increased distance from a source of the scanning signal to the signal wires, wherein an accurate data signal is applied to each of the plurality of liquid crystal cells such that a picture displayed on the liquid crystal panel is not distorted.

4. (Currently Amended): A method of driving a matrix type liquid crystal panel provided with a plurality of thin film transistors coupled to scanning wires and signal wires, and a plurality of liquid crystal cells, at intersecting points of the scanning wires and the signal wires, the method comprising steps of:

applying a scanning signal pulse to the scanning wire;

supplying data signals to the signal wires; and

allowing the data signals to be supplied to the signal wires to have a ~~different~~ width enlarged in accordance with an increased distance from a source of the scanning wire, wherein

an accurate data signal is applied to each of the plurality of liquid crystal cells such that a picture displayed on the liquid crystal panel is not distorted.

5. (Previously Presented): A method of driving a matrix type liquid crystal panel provided with a plurality of thin film transistors coupled to scanning wires and signal wires, and a plurality of liquid crystal cells, at intersecting points of the scanning wires and the signal wires, the method comprising steps of:

applying data signals to the signal wires; and
supplying a scanning signal having a width reduced in accordance with an increased distance from a source of the signal wire to the scanning wire.

6. (Previously Presented): A method of driving a matrix type liquid crystal panel provided with a plurality of thin film transistors coupled to scanning wires and signal wires, and a plurality of liquid crystal cells, at intersecting points of the scanning wires and the signal wires, the method comprising steps of:

applying a scanning signal having a width varied in accordance with a position of the signal wire relative to the scanning wire; and
supplying data signals having a width enlarged in accordance with a distance from a source of the scanning wire to the signal wires.

Claims 7-12 (Canceled).

13. (Previously Presented): An apparatus for driving a matrix type liquid crystal panel provided with a plurality of thin film transistors coupled to scanning wires and signal wires, and

a plurality of liquid crystal cells, at intersecting points of the scanning wires and the signal wires,
the apparatus comprising:

scanning side driving means for applying a scanning signal to the scanning wire;
signal side driving means for supplying data signals to the signal wires; and
width control means for allowing the scanning signal to have a width reduced in
accordance with an increased distance from a source of the signal wire.

14. (Previously Presented): The apparatus as set forth in claim 13, wherein the signal side driving means includes a plurality of signal wire driving cells for dividing the signal wires by a certain area and supplying the data signals to the divided areas.

15. (Previously Presented): The apparatus as set forth in claim 13, wherein the width control means applies an output enable signal to the scanning side driving means, the output enable signal having a width of a disable period enlarged in accordance with proceeding from the start point to the end point of the signal wire.

16. (Currently Amended): An apparatus for driving a matrix type liquid crystal panel provided with a plurality of thin film transistors coupled to scanning wires and signal wires, and a plurality of liquid crystal cells, at intersecting points of the scanning wires and the signal wires, the apparatus comprising:

scanning side driving means for applying a scanning signal to the scanning wire; and
signal side driving means for supplying data signals having a width enlarged in
accordance with an increased distance from a source on the scanning wire to the signal wires,

wherein an accurate data signal is applied to each of the plurality of liquid crystal cells such that a picture displayed on the liquid crystal panel is not distorted.

17. (Previously Presented): The apparatus as set forth in claim 16, wherein the signal side driving means comprises:

a plurality of signal wire driving cells for dividing the signal wires by a certain area and supplying data signals to the divided areas; and

control means for driving the signal wire driving cells in such a manner that the width of the data signal to be transmitted from each signal wire driving cell to each of the signal wires is gradually enlarged.

18. (Previously Presented): The driving apparatus as set forth in claim 17, wherein the control means includes a width expander for expanding the width of an output enable signal controlling output start points of each of the signal wire driving cell by a predetermined interval.

19. (Currently Amended): An apparatus for driving a matrix type liquid crystal panel provided with a plurality of thin film transistors coupled to scanning wires and signal wires, and a plurality of liquid crystal cells, at intersecting points of the scanning wires and the signal wires, the apparatus comprising:

scanning side driving means for applying a scanning signal to the scanning wire;

signal side driving means for supplying data signals to the signal wires; and

width control means for making the data signals to be supplied to the signal wires have an different width enlarged in accordance with an increased distance from a source on the

scanning wire, wherein an accurate data signal is applied to each of the plurality of liquid crystal cells such that a picture displayed on the liquid crystal panel is not distorted.

20. (Previously Presented): The apparatus as set forth in claim 19, wherein said signal side driving means includes a plurality of signal wire driving cells for dividing the signal wires by a certain area and supplying the data signals to the divided areas.

21. (Previously Presented): The apparatus as set forth in claim 19, wherein the width control means includes a width expander for enlarging a width of an output enable signal controlling an output interval of the data signal at each of the signal view driving cells by a predetermined interval.

22. (Previously Presented): A driving apparatus for a matrix type liquid crystal panel provided with a plurality of thin film transistors coupled to scanning wires and signal wires, and a plurality of liquid crystal cells, at intersecting points of the scanning wires and the signal wires, the apparatus comprising:

scanning side driving means for applying a scanning signal having a width varied in accordance with a distance from a source of the signal wire to the scanning wire; and

signal side driving means for supplying a data signal having a width enlarged in accordance with a distance from a source of the scanning wire to the signal wire.

23. (Previously Presented): A driving system for a liquid crystal display device having a plurality of scanning lines, a plurality of data lines generally orthogonal to the scanning lines,

and a plurality of liquid crystal cells formed at the intersections of data lines and scanning lines,
the driving system comprising:

a plurality of scanning driver integrated circuits connected to the scanning lines for
applying scanning signals thereto;

a plurality of data driver integrated circuits connected to the data lines for applying data
signals thereto; and

a width controller for varying time periods during which the data signals are applied by
the data driver integrated circuits to the data lines in accordance with the data lines' respective
positions relative to a scanning line source.

24. (Previously Presented): The driving system of claim 23, wherein the width
controller supplies output enable signals to the data driver integrated circuits to control the time
periods during which the data signals are applied by the data driver integrated circuits to the data
lines.

25. (Previously Presented): A driving system for a liquid crystal display device having a
plurality of scanning lines, a plurality of data lines generally orthogonal to the scanning lines,
and a plurality of liquid crystal cells formed at the intersections of data lines and scanning lines,
the driving system comprising:

a plurality of scanning driver integrated circuits connected to the scanning lines for
applying scanning signals thereto;

a plurality of data driver integrated circuits connected to the data lines for applying data
signals thereto; and

a controller for varying time periods during which the scanning signals are applied by the scanning driver integrated circuits to the scanning lines in accordance with the scanning lines' respective positions relative to a data line source.

26. (Previously Presented): The driving system of claim 25, wherein the controller supplies output enable signals to the scanning driver integrated circuits to control the widths of the time periods during which the scanning signals are applied by the scanning driver integrated circuits to the scanning lines.

27. (Previously Presented): A method of driving a liquid crystal display (LCD) device having a plurality of scanning lines, a plurality of data lines generally orthogonal to the scanning lines, and a plurality of liquid crystal cells formed at the intersections of data lines and scanning lines, the method comprising:

applying a scanning line signal from a scanning driver integrated circuit (IC) to one of the scanning lines of the LCD connected at one end to the scanning driver IC; and

applying data line signals to each of the data lines, a first width of a first one of the data line signals applied to a first one of the data lines located a first distance from the scanning driver IC being greater than a second width of a second one of the data line signals applied to a second one of the data lines located a second distance from the scanning driver IC, wherein the first distance is greater than the second distance, wherein an accurate data signal is applied to each of the plurality of liquid crystal cells such that a picture displayed on the liquid crystal panel is not distorted.

28. (Previously Presented): The method of claim 27, wherein applying the data signals to each of the data lines, comprises:

supplying a data signal to a plurality of data driver integrated circuits connected to the data lines; and

supplying output enable signals to the data driver integrated circuits, wherein a width of a disable period of a first one of the output enable signals applied to a first one of the data driver integrated circuits connected to the first of the data lines is less than a width of a disable period of a second one of the output enable signals applied to a second one of the data driver integrated circuits connected to the second one of the data lines.

29. (Previously Presented): A method of driving a liquid crystal display (LCD) device having a plurality of scanning lines, a plurality of data lines generally orthogonal to the scanning lines, and a plurality of liquid crystal cells formed at the intersections of data lines and scanning lines, the method comprising:

applying data line signals from a plurality of data driver integrated circuits (ICs) to the data lines of the LCD, each data line being connected at one end to one of the data driver ICs; and

applying scanning line signals to each of the scanning lines, a first width of a first one of the scanning line signals applied to a first one of the scanning lines located a first distance from the data driver ICs being different from a second width of a second one of the scanning line signals applied to a second one of the scanning lines located a second distance from the data driver ICs, wherein the first distance is greater than the second distance.

30. (Previously Presented): The method of claim 29, wherein applying the scanning line signals to each of the scanning lines comprises supplying output enable signals to the scanning driver integrated circuits, wherein a width of a disable period of a first one of the output enable signals applied to a first one of the scanning driver integrated circuits connected to the first of the scanning lines is greater than a width of a disable period of a second one of the output enable signals applied to a second one of the scanning driver integrated circuits connected to the second one of the scanning lines.

31. (Currently Amended): A method for driving a liquid crystal display device having a plurality of scanning lines, a plurality of data lines, a plurality of data signal sources and a plurality of scanning signal sources comprising:

controlling scanning signals supplied to the scanning lines; and

controlling data signals supplied to the data lines;

wherein the data signals have ~~varying~~ widths enlarged depending on an increased distance of the data lines from the scanning signal sources, wherein an accurate data signal is applied to each of the plurality of liquid crystal cells such that a picture displayed on the liquid crystal panel is not distorted.

32. (Previously Presented): A method for driving a liquid crystal display device having a plurality of scanning lines, a plurality of data lines, a plurality of data signal sources and a plurality of scanning signal sources comprising:

controlling a scanning signal supplied to the scanning lines; and

controlling a data signal supplied to the data lines;

wherein the scanning signal has a reduced width in proportion to an increased distance of the scanning lines from the scanning signal sources.

33. (Previously Presented): A method for driving a liquid crystal display device having a plurality of scanning lines, a plurality of data lines, a plurality of data signal sources and a plurality of scanning signal sources comprising:

controlling a scanning signal supplied to the scanning lines; and

controlling a data signal supplied to the data lines;

wherein the scanning signal has a reduced width in proportion to an increased distance of the scanning lines from the data signal sources; and

wherein a width expander is utilized for controlling the width of the scanning signal voltage.

34. (Previously Presented): A driving system for driving a liquid crystal display device having a plurality of scanning lines, a plurality of data lines, a plurality of data signal sources and a plurality of scanning signal sources comprising:

a plurality of data drivers;

a plurality of gate drivers; and

a plurality of width expanders for controlling widths of data signals provided to the data lines in accordance with a distance from the data lines to the scanning signal sources;

wherein a scanning signal has a varying width depending on the distance of the scanning lines from the data signal sources.

35. (Previously Presented): A driving system driving a liquid crystal display device having a plurality of scanning lines, a plurality of data lines, a plurality of data signal sources and a plurality of scanning signal sources comprising:

a plurality of data drivers;

a plurality of gate drivers; and

a plurality of width expanders for controlling widths of a scanning signal provided to the scanning lines in accordance with a position of the scanning lines relative to the data signal sources;

wherein a plurality of data signals have varying widths depending on the distance of the data lines from the scanning signal sources.